

[PHOTOMASK WITH INTERNAL ASSISTANT PATTERN FORENHANCING RESOLUTION OF MULTI-DIMENSION PATTERN]

Abstract

A photomask with an internal assistant pattern, comprising a first pattern having a plurality of parallel lines along a first direction; a second pattern having a plurality of parallel lines along a second direction, wherein the second direction is different from the first direction; and an internal assistant pattern comprising a plurality of shaped structures formed in at least one of said first or second patterns, is provided. The internal assistant pattern is formed in the first pattern when the parallel lines of the second pattern are positioned along a vertical direction with respect to a common line of light exit apertures of an optical projection system. Further, the internal assistant pattern is formed in the second pattern when the parallel lines of the first pattern are positioned along a vertical direction with respect to a common line of light exit apertures of an optical projection system.